

Camp Navajo

Department of Defense (DoD) Site

Boundaries:

Camp Navajo is located in Bellemont, in north-central Arizona, 12 miles west of Flagstaff and 17 miles east of Williams. The facility encompasses 28,347 acres and is situated in heavily forested to grassy, gently rolling to steep hilly terrain approximately 7,100 feet above mean sea level. Excluding the open burning/open detonation area (OB/OD) area, military facilities present at Camp Navajo include approximately 170 buildings of which 32 are currently used for administration, maintenance, operations, and storage. There are 776 igloo structures that were used for storage of conventional and chemical munitions.

Site History:

The Navajo Depot Activity was created in 1942. The primary mission of the depot was to provide storage and further shipment of explosives and other strategic and critical commodities and conduct recovery and disposal of obsolete or deteriorated explosives and ammunition.

In 1982 the Arizona Army National Guard (AZ ARNG) became the facility operator. The current mission for the National Guard is primarily a training mission, with the secondary support mission of leasing storage space to other federal and state entities. Past activities have led to known and suspected contamination of several environmental media outside the ammunition demolition areas. Types of areas include: ammunition workshops, munitions storage, munitions testing and training ranges, operations facilities (including automotive maintenance and fueling), hazardous materials storage, and solid waste disposal facilities. Environmental studies have been conducted at Camp Navajo dating back to December 1979.

EPA and ADEQ completed the RCRA facilities assessment (RFA) and visual inspection at Camp Navajo in the fall of 1993. The EPA also completed a preliminary assessment/site inspection (PASI) re-evaluation of Camp Navajo under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) in April 1993. The report incorporated records contained in the 1991 Master Environmental Plan (MEP) and subjected available sampling data to Hazard Ranking System (HRS) scoring. In October of 1993, EPA notified the AZ ARNG that Camp Navajo did not score high enough to be placed on the National Priorities List (NPL). However, the facility is still subject to CERCLA, state (delegated RCRA, WQARF etc.) and local laws, and must comply with applicable remedial standards established by the Installation Restoration Program for all federal facilities.

The installation is subdivided into three “zones” with several parcels of land leased to tenants. The interior zone of Camp Navajo is utilized for storage igloos, General Service Administration (GSA) warehouses, and ammunition and surveillance workshop areas. The southern zone of the installation was formerly used as a demolition area to train ammunition handlers and to demilitarize obsolete munitions. For activities in this zone, the OB/OD is described elsewhere. Administrative, military training, and tenant activities (Wherry Housing) are conducted within the buffer zones. No notice of violation (NOV) has been issued at the installation to date.

Numerous studies and investigations have been conducted at the installation since 1970. Sites, excluding the OB/OD area, investigated to date have included:

- tank areas
- landfills/waste/ash piles
- igloos/storage areas/pads
- paint/maintenance shops/wastewater lagoons/retention ponds/demolition/demilitarization areas/training areas
- asphalt plants

Major removal actions performed in 2000 include the excavation of TNT contaminated soils at the TNT washout facility, a.k.a., Building 318/319; the demolition of Building 319, and the dewatering and treatment of TNT contaminated groundwater from the perched aquifer immediately beneath Buildings 318/319. The contaminated soils and groundwater were treated by biocomposting on site.

The Former Sanitary Landfill was first investigated in 1998, with supplemental investigations in 1998, 1999, and 2000. Based on these investigations, an environmental engineering and cost analysis (EECA) was finalized in May 2001, which proposed recontouring, capping and re-seeding of the site. The remedial action was completed in October 2001.

The Former Construction Debris Landfill #5 was first investigated in 1995, with a supplemental investigation in 1999. In 2000, 6,000 cubic yards of debris and soil were transported and disposed at a permitted hazardous waste landfill facility.

Thirty-four sites were involved in investigation and remediation activities under CERCLA in 2002 and 2003. They are summarized as follows:

- Seven sites required no further action (NFA)
- Twenty-seven sites were investigated and removal actions conducted during field work in the summer of 2002 and 2003 and are now slated for closure.
- Contamination at these sites appeared to be limited primarily to the surface. However, additional soil and groundwater characterization was performed to verify the vertical and horizontal extent of contamination, or to verify no further action recommendations.
- For those sites with soil contamination above the applicable regulatory standards (Arizona Soil Remediation Standards Rule, A.R.S. 49-151-152; A.A.C. R18-7) a removal action, combined with long-term groundwater monitoring, was the preferred remedial action.

Proposed plans were prepared for the closure activities. Closure activities at Camp Navajo shall be conducted in accordance with the Army's Installation Restoration Program (IRP) for non-NPL sites as authorized by the Defense Environmental Restoration Program (DERP, 10 USC Chapter § 2701-2708 and 2810).

Site Status:

Decision Documents are pending for 29 of the sites. When the Decision Documents are approved those sites will be considered closed. Five sites require long-term management (LTM). The LTM activities will include groundwater monitoring and Five-Year Reviews.

Site Hydrogeology:

The Camp Navajo area is underlain by unconsolidated Quaternary alluvial deposits, volcanic rocks of Quaternary and Tertiary age and Paleozoic sedimentary rocks, mostly sandstones, limestones and shales. Outcrops of the volcanic unit are predominantly basaltic and range from lava flows to cinder cones. Thirteen volcanic vents have been identified within Camp Navajo's boundaries.

Several faults have been identified cutting Paleozoic sedimentary rocks and Quaternary- Tertiary volcanic rocks. These faults are regionally important with respect to groundwater sources and recharge.

The regional water table, occurring in the Coconino-Supai sandstone aquifer, is encountered at approximately 1,270 feet below ground surface. Several perched water tables, controlled by local geologic conditions, are present in the vadose zone above the regional unconfined aquifer. These perched saturated zones have been identified at various depths to 350 feet and have been the predominant source of groundwater in wells immediately adjacent to Camp Navajo.

The City of Flagstaff relies on the Coconino-Supai aquifer for its municipal drinking water; its production wells are located at the Woody Mountain Wellfield, three miles southeast of the eastern boundary of Camp Navajo. Within the Coconino aquifer, groundwater flow is north to northeast as in Flagstaff.

The Fossil Mountain and the Harrisburg members of the Kaibab Formation are the dominant rock units present. These units are bisected by several northeast striking normal faults and associated fracture sets that are surficially exposed in outcrop. The Fossil Mountain member for the Kaibab Formation consists of approximately 75 meters of thick-bedded limestone, sandy-limestone, and sandstone, while the underlying Harrisburg member consists of approximately 50 meters of reddish-orange to white, thinly bedded, sand-silty limestone, and calcareous silty sandstone.

Contaminants:

Contaminants of concern associated with installation operations (excluding the OB/OD area), include heavy metals, volatile organic compounds (VOCs), semi-volatile organic compounds (SVOCs) such as pesticides and herbicides, residual from explosive waste, phosphorus, nitrates, nitrites and PCBs. Contaminants of concern at the site may change as new data become available.

Public Health Impact:

A public health risk may exist by ingestion of contaminated soils or groundwater. This risk is managed by restricting site access to Arizona Army National Guard and National Guard Bureau personnel only. Land use at the installation will be non-residential for the foreseeable future.

Community Involvement Activities:

Investigation and remediation activities are conducted in accordance with Camp Navajo's Community Relations Plan (CRP) which was finalized in March 2003. A community relations responsiveness summary is being prepared and included in the final Decision Documents (DDs).

Information Repositories:

Interested parties may view site information at the information repository at the Cline Library located at 901 South Knoles Drive, Building 28, in Flagstaff, (928) 523-4459. Site information is also available at the ADEQ main office located at 1110 West Washington Street, Phoenix. Site information is available for review with 24 hour notice Monday through Friday from 8 a.m. to 5 p.m. To arrange for a time to review the public site file, please call the ADEQ Records Management Center (602) 771-4380 or (800)234-5677 (Arizona toll free).

Contacts:

Name	Phone/Fax	E-mail
Nicole Coronado, ADEQ Project Manager	(602) 771-4245*/ (602) 771-4272	nm1@azdeq.gov

*In Arizona, but outside the Phoenix area, call toll-free at (800) 234-5677.